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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/550,534	09/22/2005	Kentarou Tamaki	277078US2PCT	3078
22850 7590 06/22/2007 OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER STAHL, MICHAEL J	
			ART UNIT 2874	PAPER NUMBER
			NOTIFICATION DATE 06/22/2007	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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**Office Action Summary**

Application No.

10/550,534

Applicant(s)

TAMAKI ET AL.

Examiner

Mike Stahl

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 6-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 6-11 is/are rejected.
- 7) ☒ Claim(s) 11 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                                                                  |                                                                                         |
|----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                                      | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                             | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>9/22/05</u> . | 6) <input type="checkbox"/> Other: ____.                                                |

***Claim Objections***

Claim 11 is objected to because "The method" should be changed to "A method".

***Drawings***

The subject matter of this application admits of illustration by a drawing to facilitate understanding of the invention. Applicant is required to furnish drawings under 37 CFR 1.81(c). No new matter may be introduced in the required drawings. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d).

It is noted that there are no distinct drawing sheets in the regular US application file, yet a brief description of drawings is provided in the specification. The pre-grant publication of this application (US 2007/0014518) appears to have copied the drawings from the parent PCT application. If applicant chooses to submit copies of those drawings in response to the above requirement, any non-English text should be removed from such drawings.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 6-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Tessier et al. (US 5217568).

Art Unit: 2874

Claim 6: Tessier discloses an optical waveguide chip comprising: a core portion **22** as an optical waveguide; a clad portion **24** formed around the core portion; and an optical fiber guide portion (the cut-out portion of layer **24** shown in figs. 8-10) for positioning an optical fiber **12** which is to be connected with the core portion, wherein the core portion **22**, the clad portion **24**, and the fiber guide portion are composed of a cured radiation-sensitive polysiloxane composition (col. 3 lns. 20-60; claims 11-12). The radiation applied is heat. “[F]ormed by alkali developing” is treated as a product-by-process limitation (MPEP 2113) and is given no weight in the present Office action since there is no evidence that the process creates a structure which differs from the reference structure.

Claim 7: “[F]or being connected with a single-mode optical fiber” is treated as an intended use recitation (MPEP 2114) and is given no weight in this action since it does not define a structural difference over the Tessier apparatus. It is noted that Tessier discloses an optical fiber **12**.

Claims 6-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Yotsui et al. (JP 2001-255428, cited in information disclosure statement). A machine translation of the detailed description may be obtained via:

<http://www4.ipdl.inpit.go.jp/Tokujitu/tjsogodben.ipdl?N0000=115>.

Claim 6: Yotsui discloses an optical waveguide chip comprising: a core portion **1** as an optical waveguide; a clad portion **2** formed around the core portion; and an optical fiber guide portion **4** for positioning an optical fiber **3** which is to be connected with the core portion, wherein the core portion **1**, the clad portion **2**, and the fiber guide portion **4** are composed of a

Art Unit: 2874

cured radiation-sensitive polysiloxane composition ([0016], [0019]). The radiation applied is heat. “[F]ormed by alkali developing” is treated as a product-by-process limitation (MPEP 2113) and is given no weight in the present Office action since there is no evidence that the process creates a structure which differs from the reference structure.

Claim 7: “[F]or being connected with a single-mode optical fiber” is treated as an intended use recitation (MPEP 2114) and is given no weight in this action since it does not define a structural difference over the Yotsui apparatus. It is noted that Yotsui discloses an optical fiber 3.

Claims 6-7 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 8-271746 ('746). A machine translation of the detailed description was obtained via:  
<http://www4.ipdl.inpit.go.jp/Tokujitu/tjsogodben.ipdl?N0000=115>.

Claim 6: '746 discloses an optical waveguide chip comprising: a core portion **301** as an optical waveguide; a clad portion **35a/b** formed around the core portion; and an optical fiber guide portion **36** for positioning an optical fiber which is to be connected with the core portion, wherein the core portion, the clad portion, and the fiber guide portion are composed of a cured radiation-sensitive polysiloxane composition ([0046]-[0048]). See fig. 4 and [0049]-[0056]. The radiation applied is UV but may also be heat ([0057]). “[F]ormed by alkali developing” is treated as a product-by-process limitation (MPEP 2113) and is given no weight in the present Office action since there is no evidence that the process creates a structure which differs from the reference structure.

Art Unit: 2874

Claim 7: “[F]or being connected with a single-mode optical fiber” is treated as an intended use recitation (MPEP 2114) and is given no weight in this action since it does not define a structural difference over the ‘746 apparatus. It is noted that an optical fiber is to be attached at the V-groove ([0056]), and may be a single-mode fiber ([0007]-[0008]).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tessier et al. (cited above).

Tessier does not specifically disclose a groove/hole crossing the waveguide core and containing a dielectric multilayer filter. Official notice is taken of the fact that integrated optical

Art Unit: 2874

circuits including such a filter in a groove intersecting a waveguide core were widely known in the art at the time the claimed invention was made. A person having ordinary skill in the art would have found it obvious to apply the Tessier method to such an integrated optical circuit because it enables the waveguide structure and the fiber supporting V-groove to be defined in fewer steps than other conventional processes (see e.g. col. 1 lns. 24-45; col. 5 lns. 53-58). A skilled person would have been motivated to make the proposed combination by at least the expectation of higher production speed.

Claims 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tessier et al. (cited above) in view of Barclay et al. (US 2003/0235785).

Tessier does not specifically disclose alkali developing. Barclay discloses photoresist compositions which may be used in optical waveguide fabrication ([0083]-[0084]), and which are used with an alkaline developer (e.g. [0014], [0056]). The photoresist compositions are advantageous in that they enable the use of shorter exposure wavelengths while maintaining high contrast, which in turn enables production of smaller features (e.g. [0007]-[0017]). Accordingly it would have been obvious to a person having ordinary skill in the art to use one of the photoresists taught by Barclay in the process of making the Tessier device, in order to achieve better definition of the waveguide core. A skilled person would have been motivated to make this combination by the expectation of lower scattering losses from imperfect lateral surfaces of the core.

Art Unit: 2874

***Conclusion***

The additional references listed on the attached PTO-892 form are relevant to the subject matter of this application.

Inquiries about this letter may be directed to examiner Stahl at the number below. Inquiries of a general or clerical nature (e.g., a request for a missing form or paper, etc.) should be directed to the technical support staff supervisor at 571-272-1626. Official correspondence which is eligible for submission by facsimile and which pertains to this application may be faxed to 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Questions about the Private PAIR system should be directed to the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mike Stahl *MJS*  
2874  
571-272-2360

June 17, 2007

  
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